

NEW AUSTRALIAN SPECIES OF *OTIRA* FORSTER & WILTON, 1973 AND
STORENOSOMA HOGG, 1900 (ARANEAE : AMAUROBIIDAE)

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ABSTRACT

Two new *Otira* species from the high altitude rainforest on Mt Bellenden Ker, NE.Q. are described; previously the only known species were from New Zealand and Tasmania. *Storenosoma lycosoides* Hogg, 1900 is redescribed and figured; two new species of *Storenosoma* from Lamington National Park, SE.Q. and one from northern N.S.W. are described. Males of all species have stridulatory elements located on the palpal trochanter and prolateral surface of coxa 1.

INTRODUCTION

Otira was established and 6 species described from New Zealand by Forster & Wilton (1973). It is confined to the west coast of the South Island and the Wellington region of the North Island. Hickman (1981) extended its range when he described *O. affinis* from southwestern Tasmania. Two *Otira* spp. from the high altitude rainforest on Mt Bellenden Ker Range, in northern Queensland (Fig. 1) are described here. They are examples of species of Gwondanan origin surviving in the moist relict rainforest above 1000m on mountains of tropical Queensland. *Otira* has been found nowhere else in Queensland. In SE.Q. and further south its place appears to be taken by closely allied *Storenosoma*, first described by Hogg (1900) from Victoria. The type species, *S. lycosoides*, is redescribed and figured. Two species from the Lamington Plateau in southern Queensland and one from northern New South Wales are described. Forster & Wilton (1973) illustrated (Figs. 816, 820–23) but did not describe or name a species from the Blue Mountains N.S.W., calling it only an 'Australian ecribellate amaurobiid'. As well as this, there are probably several more species to be described.

Otira Forster & Wilton, 1973

O. satura Forster and Wilton, 1973, type sp.

Small ecribellate spiders. Both rows of eyes strongly procurved. Tarsal rod on all tarsi.

Posterior spinnerets reduced. Colulus present. Legs 4123. Preening combs on metatarsi II–IV. Retroventral stridulatory spur(s) on ♂ palpal trochanter. Palpal bulb with median tegular process.

Otira summa sp. nov.

MATERIAL EXAMINED

HOLOTYPE: Litter, mossy microphyll forest, 1560m Bellenden Ker Ra., NE.Q. Earthwatch/Queensland Museum Expedition, 1–7.xi.1981, 1 ♀, QM S1365.

PARATYPES: Same locality and collectors, 25–31.x.1981, 1 ♂, QM S1366; 17–24.x.1981, 1 ♂, QM S1367.

DESCRIPTION

FEMALE

CL = 2.3, CW = 1.3, AL = 2.3, AW = 1.4.

Brownish yellow carapace with black between eye rows (Fig. 2), abdomen with indistinct chevron pattern. Eyes, 2.4.2. (Fig. 3). Ratio AME:ALE:PME:PLE is 2:7:10:16. Two retromarginal teeth and 2 promarginal teeth on chelicera. Serrula on maxillae. Labium wider than long 1:0.73. Sternum truncated anteriorly, pointed posteriorly, slightly longer than wide 1:0.93. Dorsal spines on all femora and on posterior tibiae and metatarsi; ventral and lateral spines on all tibiae and metatarsi. Preening combs with 4–5 tines. Dorsal tarsal rod about 1/3 distance from base of all tarsi (Figs. 27, 28, 38). Four trichobothria of increasing length distal to rod; bothrium grooved (Fig. 39). Epigynum (Figs. 4, 5).

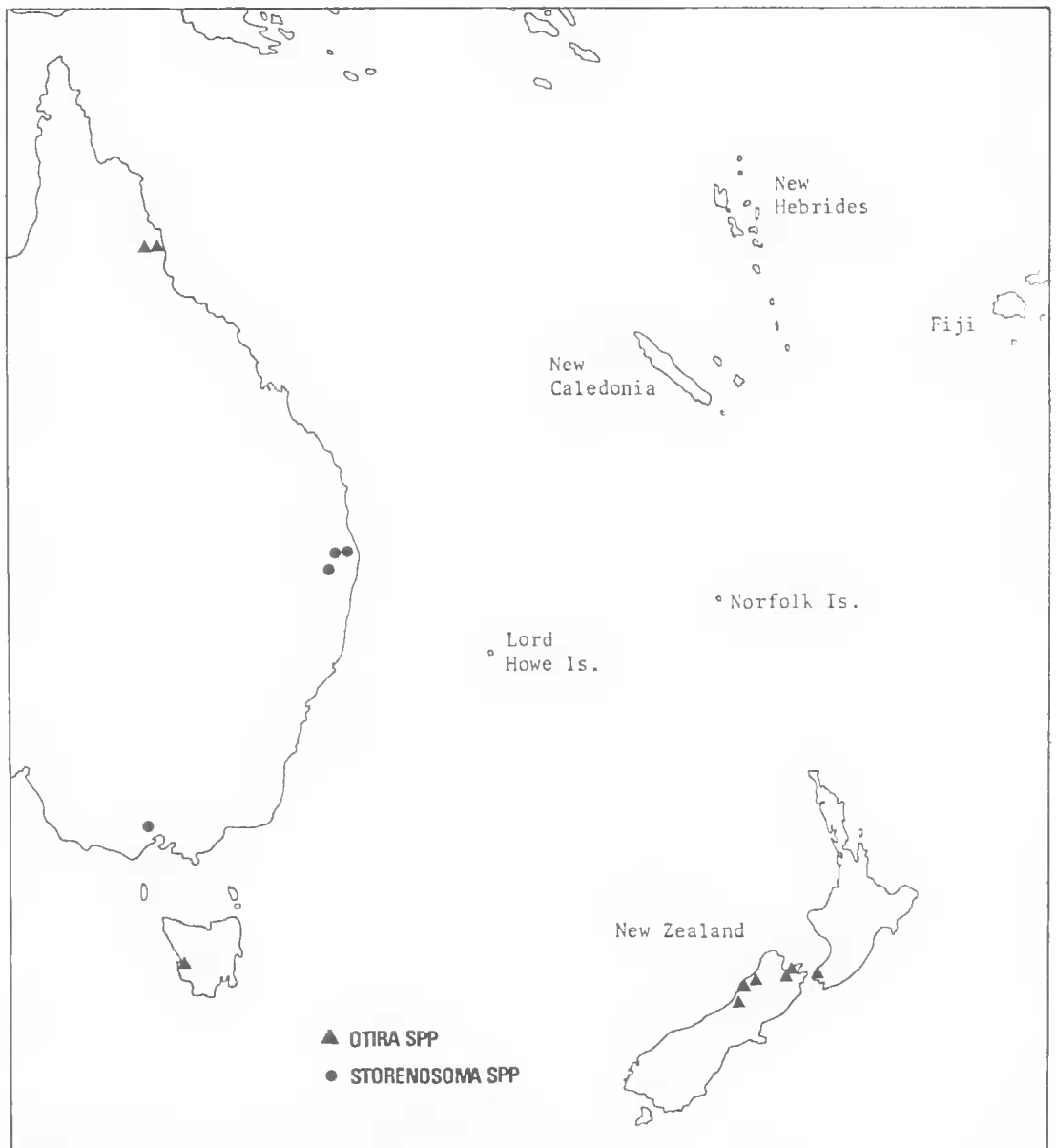


FIG. 1: Map showing distribution of *Otira* spp. and *Storenosoma* spp.

MALE

CL = 2.3, CW = 1.4, AL = 1.7, AW = 1.1.

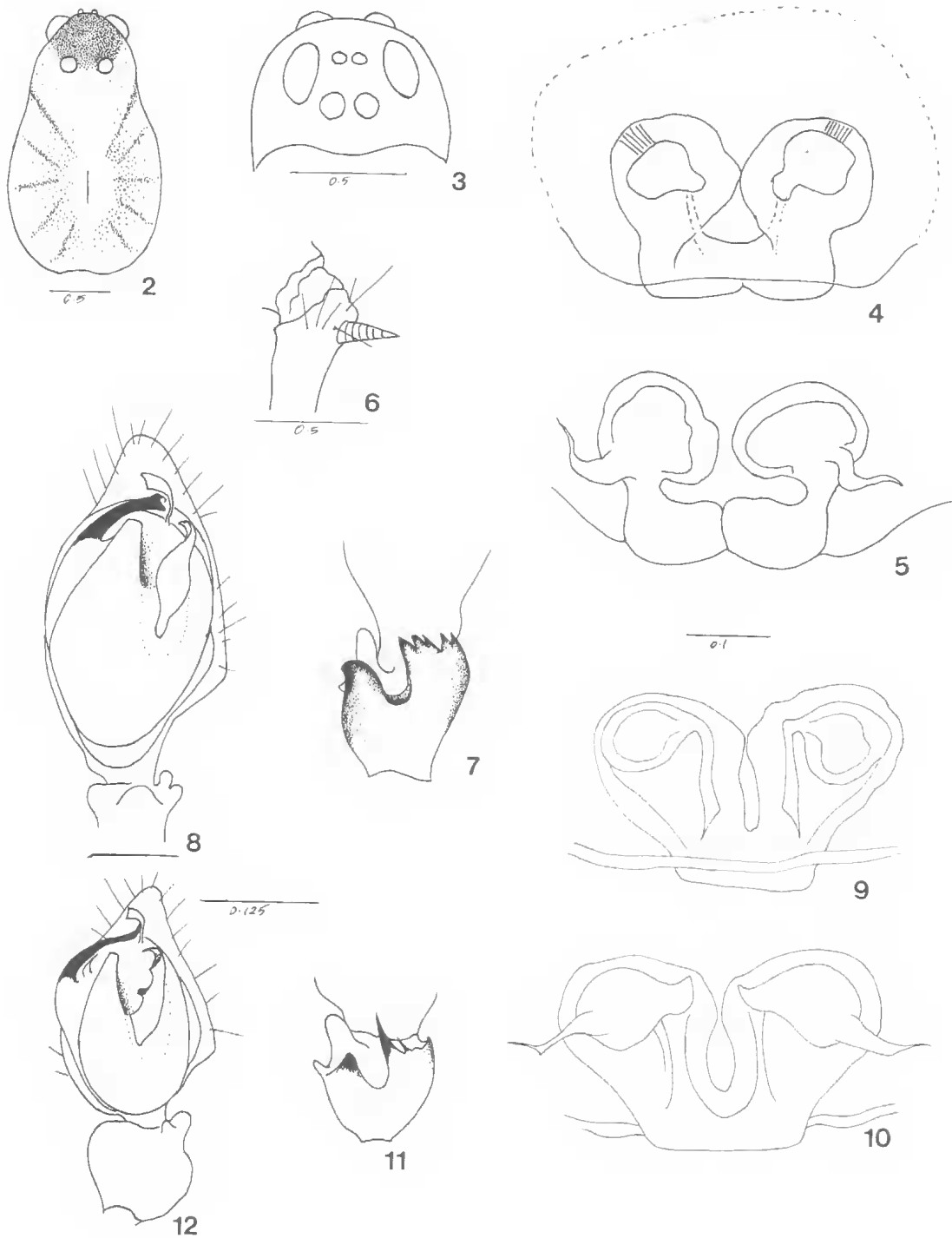
Metatarsi I sparsely scopulate and slightly swollen ventrally. Palpal trochanter with a retroventral spur (Fig. 6). Complex tibial apophysis (Fig. 7); sclerotised median apophysis, small membranous conductor, stout rigid embolus (Figs 8, 29, 30). Cymbial border asymmetrical with angular bulge retrolaterally.

Otira aquilonaria sp. nov.

MATERIAL EXAMINED

HOLOTYPE: Litter, simple notophyll forest, 1054m Bellenden Ker Ra., NE.Q. Earthwatch/Queensland Museum Expedition, 17-24.x.1981. 1 ♀, QM S1368.

PARATYPES: Same data. 2 ♀, QM S1369, 1 ♀, 1 ♂, QM S1370; pitfall traps, 1054m. Bellenden Ker Range, NE.Q. Earthwatch/Queensland Museum Expedition, 25-31.x.1981, 1 ♀, 1 ♂, QM S1371.



FIGS 2-8: *Otira summa* sp. nov. Fig. 2, ♀, carapace. Fig. 3, eyes from front. Figs 4-5, epigynum. Fig. 4, external. Fig. 5, internal. Fig. 6, stridulatory spur on ♂ palpal trochanter. Fig. 7, ♂ tibial apophysis, retrolateral. Fig. 8, ♂ palp, ventral. FIGS 9-12: *Otira aquilonaria* sp. nov. Figs 9-10, epigynum. Fig. 9, external. Fig. 10, internal. Fig. 11, ♂ tibial apophysis, retrolateral. Fig. 12, ♂ palp, ventral.

DESCRIPTION

FEMALE

CL = 1.7, CW = 1.1, AL = 2.0, AW = 1.4.
Small. Eyes, chelicerae, spines similar to *O. summa*. Preening combs with 3-5 tines. Epigynum (Figs 9, 10).

MALE

CL = 1.7, CW = 1.1, AL = 1.3, AW = 1.0.
Metatarsi I scopulate and slightly swollen ventrally. Palpal trochanter with a retroventral spur. Complex tibial apophysis (Fig. 11). Palp (Figs 12, 31).

REMARKS

O. aquilonaria is smaller than *O. summa* and may be distinguished from it by the shape of σ tibial and median apophyses.

The tarsal rod is distal in the New Zealand species and proximal in all the Australian species. If it is homologous with the tarsal organ the distal position must be considered plesiomorphic. There are 2 trochanteral spurs on the σ palp in the New Zealand and Tasmanian species, a single spur in the Queensland species. The latter is considered to be the derived state.

Storenosoma Hogg, 1900

S. lycosoides Hogg, 1900, type sp.

Medium-large ecribellate spiders. Both rows of eyes strongly procurved. Anterior spinnerets largest. Colulus present. Legs 4123. Preening combs on metatarsi II-IV. Two retroventral stridulatory spurs on σ palpal trochanter. Cymbial border asymmetrical with angular bulge retrolaterally. Epigynum with lateral teeth. There is a photograph (Fig. 816) of *Storenosoma* sp. in Forster & Wilton (1973).

Storenosoma lycosoides, Hogg, 1900

MATERIAL EXAMINED

LECTOTYPE: Macedon, Victoria, 1 σ . BMNH 1907.2.24.34-37 (part).

PARALECTOTYPES: Macedon, Victoria, 1 σ , 2 ν . BMNH 1907.2.24.34-37 (part).

OTHER MATERIAL: Macedon, Victoria, 1 penult. σ . British Museum 1924.3.1.1425.

DESCRIPTION

FEMALE

CL = 4.3, CW = 3.0, AL = 5.5, AW = 3.8.
Large spider. Carapace brown with darker brown outlines of cephalic and thoracic regions. Abdomen grey brown with indistinct chevron pattern. Dark pigmented bands on femurs ventrally. Ratio AME:ALE:PME:PLE is 5:10:10:17. Clypeus is narrow, less than diameter ALE. Chelicerae geniculate, 2 retromarginal and

2 promarginal teeth. Serrula on maxillae. Labium wider than long 1:0.94. Sternum truncated anteriorly, pointed posteriorly, longer than wide 1:0.88. Anterior spinnerets largest and longest. Dorsal spines on all femora and on posterior tibiae and metatarsi, strong paired ventral spines and lateral spines on tibiae and metatarsi. Preening combs on metatarsi II and paired combs on metatarsi II and IV; tines 5-7. Epigynum with lateral teeth (Fig. 13).

VARIATION: The females examined varied in length between 7.3-9.0.

MALE

Legs I and II on right side and leg I on left side entire; rest missing or detached. Palp on right side missing.

CL = 3.5, CW = 2.5, AL = 3.0, AW = 1.7. (abdomen shrivelled).

Medium-sized spider. Similar in colouring to female. Chelicerae not geniculate. Clypeus less than diameter ALE. Palpal trochanter with 2 distal retrolateral spurs. Complex tibial apophysis (Fig. 14) and median apophysis. Small membranous conductor, stout rigid embolus and small tegular process (Fig. 15). In the other σ *Storenosoma* sp. with Hogg's syntypes the clypeus is more than x 1.5 ALE and the palp is less complex.

REMARKS

Hogg had 5 syntypes, 3 σ and 2 ν from Macedon, Victoria. He described and gave measurements for only the largest of the females. This specimen has several of the legs detached so one of the other females has been chosen as the lectotype. The two males are not con-specific. One is *S. lycosoides*, the other σ *Storenosoma* sp. is not described here.

Storenosoma terranca sp. nov.

MATERIAL EXAMINED

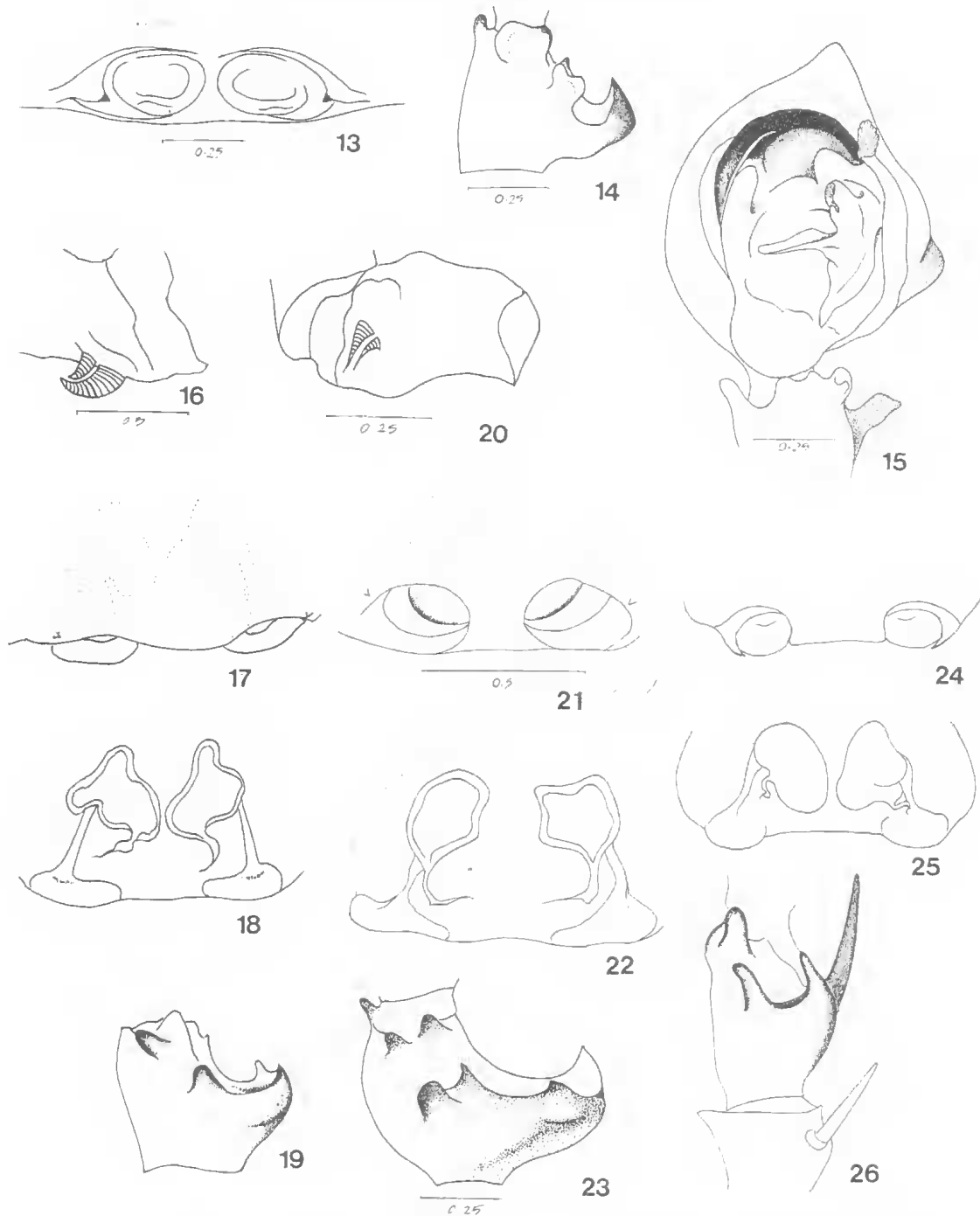
HOLOTYPE: Litter, complex notophyll vine forest, Binna Burra, 860m, Lamington National Park, SE.Q., R. Raven, 10.vii.1977, 1 σ , QM S1372.

PARATYPES: same data, 1 σ , QM S1373; 1 ν , QM S1374; same locality, R. Raven, 13.iv.1974, 1 σ , QM S1375; same locality, R. Raven, 22.vi.1973, 1 σ , QM S1376; same locality R. Raven, V. Davies, 6.iv.1976, 1 ν , QM S1377.

DESCRIPTION

FEMALE

CL = 4.7, CW = 3.8, AL = 7.7, AW = 5.7.
Large spider. Similar in colouring to *S. lycosoides* with dark pigmented bands on legs. Ratio AME:ALE:PME:PLE is 5:10:10:17. Clypeus narrow, less than ALE. Two



FIGS 13-15: *Storenosoma lycosoides* Hogg. Fig. 13, epigynum, external. Fig. 14, ♂ tibial apophysis, retrolateral. Fig. 15, ♂ palp, ventral. FIGS 16-19: *Storenosoma terranea* sp. nov. Fig. 16, distal, retroventral, stridulatory spurs on ♂ palpal trochanter. FIGS 17-18, epigynum. Fig. 17, external. Fig. 18, internal. Fig. 19, ♂, tibial apophysis, retrolateral. FIGS 20-23: *Storenosoma superna* sp. nov. Fig. 20, spurs on ♂ palpal trochanter. FIGS 21-22, epigynum. Fig. 21, external. Fig. 22, internal. Fig. 23, ♂, tibial apophysis, retrolateral. FIGS 24-26: *Storenosoma alta* sp. nov. FIGS 24-25, epigynum. Fig. 24, external. Fig. 25, internal. Fig. 26, ♂ tibial apophysis, retrolateral.

retromarginal and 2 promarginal teeth on geniculate chelicerae. Labium wider than long 1:0.88. Sternum truncated anteriorly, pointed posteriorly, longer than wide 1:0.94. Anterior spinnerets largest. Dorsal spines on all femora and on posterior tibiae and metatarsi, strong paired ventral spines and lateral spines on all tibiae and metatarsi. Preening combs on metatarsi II and paired combs on metatarsi III and IV; tines 3-7. Four-5 tarsal trichobothria of increasing length distally; bothrium grooved (Fig. 41). Tarsal organ (Fig. 40) distal to trichobothria. Epigynum with tiny lateral teeth (Fig. 17, 18).

MALE

CL = 4.3, CW = 3.3, AL = 3.8, AW = 2.8.

Palpal trochanter with 2 retroventral stridulatory spurs (Fig. 16, 33, 34) opposed to prolateral grooved area on coxa I (Fig. 32). Complex tibial apophysis (Fig. 19). Cymbium extended proximally into a swelling bearing 2-3 long spines (Fig. 35). Complex sclerotised median apophysis, membranous conductor, stout rigid embolus. Tegular process very reduced.

Storenosoma superna sp. nov.

MATERIAL EXAMINED

HOLOTYPE: Pitfall trap, mossy microphyll forest with *Nothofagus*, Mt Hobwee, 1140m, Lamington National Park, SE.Q. R. Raven, V. Davies, 7.iv.1976, 1 ♂, QM S1378.

PARATYPES: Same data, 1 ♀, QM S1379; 3 ♂, 3 juvs, QM S1380; litter, same locality, 1 ♀, 9 juvs, QM S1381; 1 ♂, QM S1382.

DESCRIPTION

FEMALE

CL = 3.3, CW = 2.3, AL = 3.5, AW = 2.3.

Medium-sized spider otherwise similar to *S. terranea*. Epigynum (Figs 21, 22).

MALE

CL = 3.0, CW = 2.3, AL = 2.6, AW = 2.7.

♂ Palp (fig. 36). Trochanter with 2 retroventral spurs (Fig. 20). Tibial apophysis (Fig. 23). Cymbium normal shape; no tegular process.

Storenosoma alta sp. nov.

MATERIAL EXAMINED

HOLOTYPE: Pitfall trap, litter. Poverty Point, 1160m, nr Tenterfield, N.S.W. 29.08S x 152.17E. G.B. Monteith, 2.x.1978 - 21.ii.1979, 1 ♂, QM S1383.

PARATYPES: Same data, 1 ♀, QM S1384, 1 ♂, QM S1385, 1 ♂, QM S1386.

DESCRIPTION

FEMALE

CL = 3.5, CW = 2.7, AL = 4.9, AW = 3.5.

Legs with contrasting dark pigmented bands. Posterior spinnerets reduced. Epigynum with well defined lateral teeth (Figs. 24, 25).

MALE

CL = 3.6, CW = 2.7, AL = 3.1, AW = 2.2.

Palpal trochanter with 2 retroventral stridulatory spurs. Tibial apophysis complex; long spine on patella (Fig. 26). Large median apophysis with long posterior extension (Fig. 37).

DISCUSSION

The strongly procurved rows of eyes, the presence of metatarsal preening combs, the complex ♂ tibial apophysis, the large sclerotised median apophysis, the small membranous conductor and the trochanteral stridulatory spurs on the ♂ palps link the ecribellate genera, *Otira* (New Zealand and Australia), *Storenosoma* (Australia), and *Pakeha* (New Zealand). Forster & Wilton (1973) placed these genera with several others in the family Amaurobiidae, the diagnostic characters of which were a simple tracheal system and a sclerotised, plate-like median apophysis.

Amaurobius fenestralis, the only *Amaurobius* sp. examined, has a complex ♂ tibial apophysis, tegular process (present in *Otira* and reduced in *Storenosoma*), membranous conductor, preening combs on legs III and IV and a simple epigynum with lateral teeth (present in *Storenosoma* and *Pakeha*) so that Forster and Wilton's placement is justified.

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LITERATURE CITED

- FORSTER, R.R. and WILTON, C.L., 1973. The Spiders of New Zealand. Part IV. *Otago Museum Bulletin* **4**. 309 pp.
- HICKMAN, V.V., 1981. New Tasmanian spiders of the families Archaeidae, Cycloctenidae, Amaurobiidae and Micropholcommatidae. *Pap. Proc. R. Soc. Tasm.* **115** : 47-68.
- HOGG, H.R., 1900. A contribution to our knowledge of the spiders of Victoria, including some new species and genera. *Proc. R. Soc. Vict.* **13** : 69-123.

Plate 1

FIGS 27-30: *Otira summa* sp. nov. Fig. 27, tarsus, tarsal rod, scale line 63 μ m. Fig. 28, tarsal rod, short scale line 6.3 μ m. Figs 29-30, ♂ r. palp. Fig. 29, scale line 63 μ m. Fig. 30, scale line 47 μ m. c, conductor; e, embolus; m.a., median apophysis; t.p., tegular process.



Plate 2

FIG. 31: *Otira aquilonaria* sp. nov. ♂ 1. palp.

FIGS 32-34: ♂ *Storenosoma terranea* sp. nov. Fig. 32, ♂ coxa I, prolateral, stridulatory surface. Figs 33-34, stridulatory spurs on palpal trochanter, scale lines 50 µm.

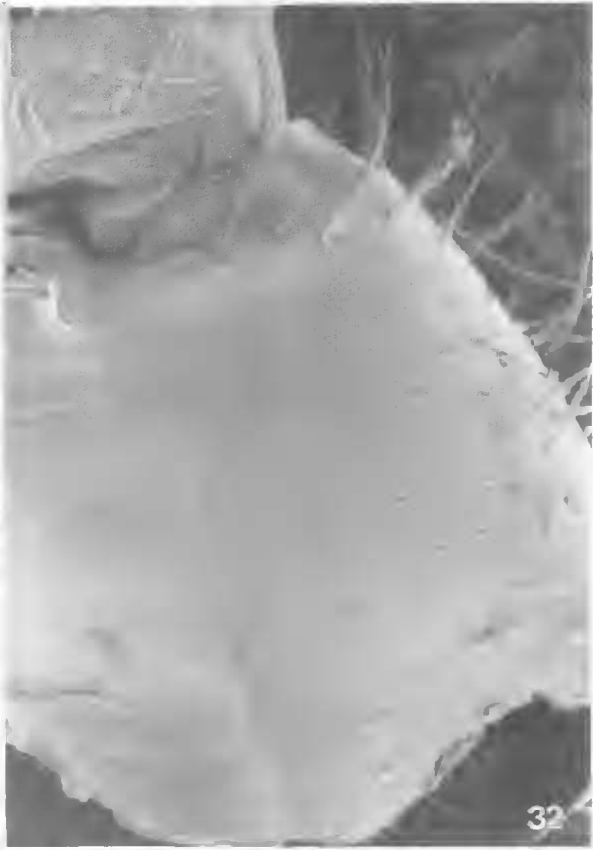


Plate 3

FIGS 35-37: 1. ♂ palps. Fig. 35, *Storenosoma terranea* sp. nov. c, conductor; cy, cymbium; e, embolus; m.a., median apophysis. Fig. 36, *Storenosoma superna* sp. nov. Fig. 37, *Storenosoma alta* sp. nov. Scale lines 50 μ m.

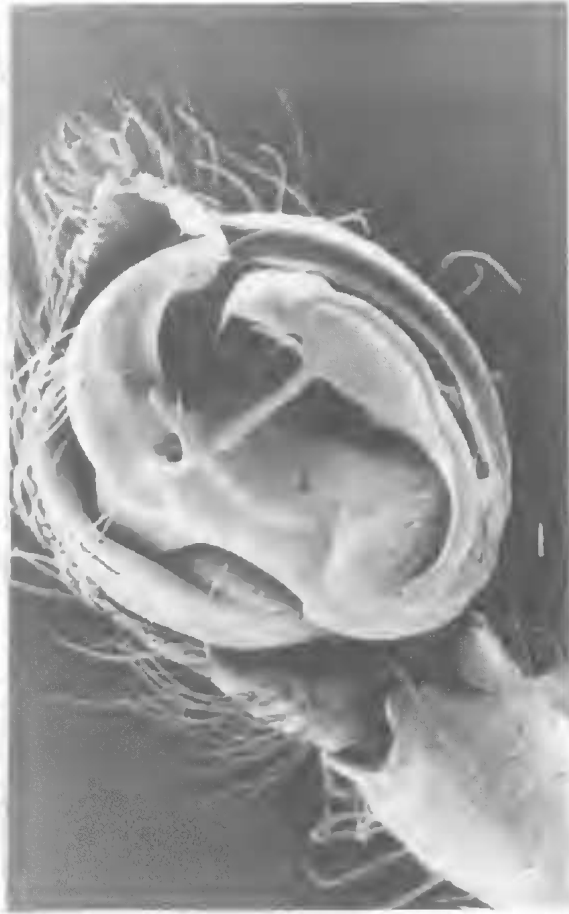
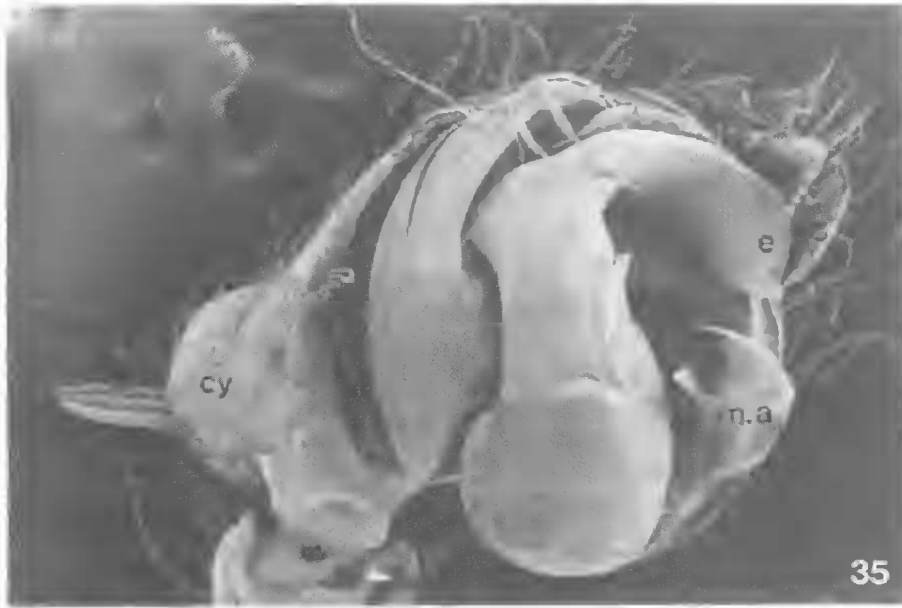


Plate 4

FIGS 38-39: *Otira summa* sp. nov. Fig. 38, tip of tarsal rod. Fig. 39, trichobothrial base. Short scale lines 5.25 μ m.

FIGS 40-41: *Storenosoma terranea* sp. nov. Fig. 40, tarsal organ. Fig. 41, trichobothrial base. Short scale lines 5.25 μ m.

